

News on the info-system of the Cesa

Our faunal series is dedicated to Yusuf Khass Hajib, an 11th-century Turkic philosopher and poet ¹

<http://zoobank.org/urn:lsid:zoobank.org:pub:96C04D90-77D1-4C6D-9179-B5FAD3A9FA08>

Faunal list of the Lepidoptera of the provinces in Turkey, together with the recorded pterygots

Ahmet Ömer Koçak Muhabbet Kemal

Abstract: Faunal list of the Lepidoptera of the provinces in Turkey, together with the recorded pterygots. *Cesa News* 97: 1-3.

In this short note, provincial lists of the Lepidoptera of Turkey published by the authors are reminded. Present numbers of the recorded species of the Lepidoptera and other pterygots for 81 provinces of Turkey are mentioned in a table. The reasons of the dissimilarity of the numbers among the provinces are explained. It is also appraised the planned future articles on this subject.

Kew words: Lepidoptera, Pterygota, fauna, Turkey.

¹ About 1000 years ago, Yusuf Khass Hajib was an 11th-century Turkic philosopher from the city of Balasaghun, the capital of the Karakhanid Empire (Central Asia). He wrote the *Kutadgu Bilig*, first political work, giving important concepts of ideal state administration. Yusuf Khass Hajib died in 1085 in the city of Kashgar, and was buried there. *Kutadgu Bilig* means something like “The Wisdom which brings Happiness” or “The Wisdom that Conduces to Royal Glory or Fortune” (Dankoff, 1983). This work is composed of sections, with 6645 lines. The 10. section “On the virtue and benefit of wisdom and intellect” (287-349). Reading the complete work is extremely recommended.

Ref.: Dankoff, R., 1983. Yusuf Khass Hajib, *Wisdom of Royal Glory (Kutadgu Bilig): A Turko-Islamic Mirror for Princes*, translated, with an introduction and notes, 281 pp. University of Chicago Press.

Also recommended: Elçioğlu, O. & H. Özden, 2004. Common thoughts of Socrates and Yusuf Khass Hajib on Wisdom and Virtue. *JISHIM* 3: 20-25. <http://www.ishim.net/ishimj/5/06.pdf>

Seven years ago, the authors published the specific lists of the Lepidoptera of twenty provinces of Turkey (Koçak & Kemal, 2007a-v). These provinces together with their codes are as follows alphabetically: Adıyaman (02), Ağrı (04), Ankara (06), Ardahan (75), Artvin (08), Bayburt (69), Bitlis (13), Bursa (16), Elazığ (23), Erzincan (24), Erzurum (25), Hatay (31), Iğdır (76), İçel (33), Kahramanmaraş (46), Kars (36), Konya (42), Malatya (44), Şırnak (73), and Tunceli (62).

In the present and the coming papers, the recorded pterygota species of the 81 provinces in Turkey will be evaluated faunistically under this title. Meanwhile, in the following (Table 1) these provinces and their species numbers known are summarized. According to the table, the best known groups in various provinces are marked with blue. Ankara is currently best studied province. On the other hand, the Pterygota fauna of some provinces in the western and northern Anatolia are poorly investigated (province numbers 03, 09, 10, 11, 14, 15, 17, 18, 19, 20, 22, 26, 28, 29, 37, 39, 40, 43, 45, 52, 53, 54, 55, 57, 59, 61, 64, 67, 68, 69, 70, 74, 75, 77, 78, 81). Similarly, some frontier provinces, as well as those in South east Turkey could not be studied properly, due to the unrest. These are: 12, 21, 30, 47, 63, 72, 73, 79. Nonetheless, the following provinces have been studying by the authors: 12, 13, 21, 30, 31, 49, 56, 65, 72, 73, and 76.

Table 1- Specific numbers of the Pterygota of the provinces in Turkey according to the Cesa info-system².
Lep. Lepidoptera, Pter., N. Number, Pterygota, excl. excluding. Best known group is marked with blue.

Provinces	N. of Lep.	N. of Pter. (excl. Lep.)	Provinces	N. of Lep.	N. of Pter. (excl. Lep.)	Provinces	N. of Lep.	N. of Pter. (excl. Lep.)
01	792	1663	28	151	212	55	142	516
02	136	463	29	323	394	56	575	426
03	279	404	30	762	637	57	67	333
04	485	424	31	570	1289	58	847	653
05	1485	668	32	361	890	59	111	333
06	1466	2427	33	935	2092	60	478	559
07	617	2059	34	469	990	61	317	533
08	605	1095	35	371	1777	62	395	351
09	177	694	36	746	1063	63	276	629
10	206	580	37	175	501	64	62	154
11	150	544	38	468	1050	65	1251	1238
12	301	281	39	291	430	66	287	265
13	894	567	40	79	254	67	74	252
14	659	627	41	113	290	68	71	185
15	132	483	42	1298	1643	69	279	321
16	1310	1159	43	166	432	70	250	349
17	371	527	44	453	532	71	510	154
18	351	367	45	251	613	72	80	78
19	126	347	46	1423	1047	73	407	373
20	139	556	47	282	433	74	86	112
21	349	612	48	243	1039	75	390	223
22	212	577	49	235	272	76	628	553
23	350	461	50	610	671	77	44	79
24	482	840	51	466	699	78	94	146
25	861	2558	52	143	228	79	9	62
26	143	597	53	262	428	80	190	402
27	193	562	54	45	269	81	155	85

² Cesa info-system: <http://www.cesa-tr.org/Infos.htm>. In our system, computerized worldwide information of the Cesa is currently composed of 176230 records. Digitalized and evaluated bibliography is composed of 12091 items (mostly published in the Cesa serials). Currently faunistical updating of some provinces are still ongoing.

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News about the Field Studies of the Cesa

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Results of the two entomological trips in summer around Van Lake (East Turkey)

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Abstract: Results of the two entomological trips in summer around Van Lake (East Turkey). *Cesa News* 97: 4-12, 36 figs.

This paper deals with two short trips realized in 2014 in Van Lake Basin. On 30 July northern slopes of Artos Mt., (Van Province), on 31 July inside of Nemrut Caldera (Bitlis Province) were visited. A number of species of the following 9 orders are recorded and illustrated: *Odonata*, *Orthoptera*, *Mantodea*, *Hemiptera*, *Planipennia*, *Lepidoptera*, *Diptera*, *Hymenoptera*, and *Coleoptera*. *Chlorochroa juniperina* (*Pentatomidae*, *Hemiptera*) and *Parnopes grandior* (*Chrysidae*, *Hymenoptera*) are reported here for the first time. The genus *Zygaena* and *Z. loti* are also new record for the Nemrut Caldera.

Key words: *Odonata*, *Orthoptera*, *Mantodea*, *Hemiptera*, *Planipennia*, *Lepidoptera*, *Diptera*, *Hymenoptera*, *Coleoptera*, fauna Van, Bitlis, Artos, Nemrut, Turkey.

A very short and unplanned meeting of the four Cesa partners in Van city on 29 July 2014, became an opportunity to realize two entomological trips to Kavarsük on the northern slopes of Artos Mount (Gevaş district, Van), and to Nemrut Caldera (Tatvan district, Bitlis). On 30 July, the team visited Kavarsük between the altitudes of 2010-2080m in the mountain steppe. Due to the season and the severe draught during the last two months in the province, almost all the herbaceous plants dried on the mountain slopes, with the exceptions of some xerophytes like *Echinops*, *Cirsium*, *Inula*, *Eryngium*, *Scabiosa*, *Knautia* etc. On 31 July, during midday, two places inside of the Nemrut Caldera, namely around vapour chimney (2337m) and warmlake (2270m) were studied.

For identification of all the specimens collected or photographed reference collection and the photography archive of the Cesa were used.⁵

Brief results of the observation and collecting activities are given below:

Insects in the vicinity of Kavarsük, 2010-2080m alt., on 30 July 2014

Between 10-11.00, at the altitude 2010m, the first place visited contains small muddy patches, where the males of some lycaenids, pierids, and hesperiids were observed. These are as follows; Butterflies: *Lycaena virgaureae* (1♀) (**Fig.1**), *Polyommatus vanensis* (5♂), *P. pseudactis* (1♂) (**Fig.2**), *P. corydonius ssp. caucasicus* (1♂) (**Fig.3**), *P. daphnis* (1♂) (**Fig.4**), *P. demavendi*, *P. icarus*, *Plebejus argus*, *P. alcedo* (1♂) (*Lycaenidae*); *Pieris ergane* (1♂) (**Fig.5**), *Leptidea duponcheli* (1♂) (*Pieridae*); *Carcharodus orientalis* (*Hesperiidae*). As to the other insects, specimens of the following families were collected by the authors: *Megachilidae*, *Vespidae*, *Ammophila* sp. (*Sphécidae*) (**Fig.6**) (*Hymenoptera*); *Tephritidae* (*Diptera*); *Hemiptera*: *Miridae*; *Gerris costae* (*Gerridae*)⁶ (**Fig.7**); *Pentatomidae*: *Carpocoris fuscispinus* (**Fig.8**).

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⁵ <http://www.cesa-tr.org/Infos.htm>

⁶ Corrigendum: Literary faunal information on *Gerris costae*; read "Gevaş", instead of "Muradiye" on page 4 (*Cesa News* 94, 2014) (cf. Dursun, A. *Turk.J.Zool.* 36 (5): 658).



Fig. 1 – *Lycaena virgaureae* (Lycaenidae). A female, feeding on the flower of *Eryngium* (Apiaceae). Photo M.Kemal (Cesa)



Fig. 2 – *Polyommatus pseudactis* (Lycaenidae). A male, resting on the stone. Photo M.Kemal (Cesa)



Fig. 3 – *Polyommatus corydonius* ssp. caucasicus (Lycaenidae). A male, feeding on the flower of *Scabiosa* (Dipsacaceae). Photo M.Kemal (Cesa)



Fig. 4 – *Polyommatus daphnis* (Lycaenidae). A male, resting on a plant. Photo M.Kemal (Cesa)



Fig. 5 – *Pieris ergane* (Pieridae). Group of males, sipping mineral waters on a muddy place. Photo M.Kemal (Cesa)



Fig. 6 – *Ammophila* sp. (Sphecidae). Photo M. Turdush (Cesa)



Fig. 7 – *Gerris costae* (Gerridae). A water bug on the upper surface of a small pond. Photo M. Kemal (Cesa)



Fig. 8 – *Carpocoris fuscispinus* (Pentatomidae) on *Eryngium* sp. (Apiaceae). Photo M. Kemal (Cesa)



Fig. 9 – Habitat. Kavarsük 2080m, Gevaş district, Van Province. Photo M. Turdush (Cesa)

Between 11-13.00, at the altitude 2080m, the mountain steppe with sporadic *Crataegus* trees at the upper heights of Kavarsük, an abandoned small village (**Fig.9**). Following species were observed and collected. *Lepidoptera*, *Lycaenidae*: *Lycaena virgaureae*, *Polyommatus antidolus* (1♂) (**Fig.10**), *P. aedon* (both sexes during courtship), *P. mithridates* (1♂) (**Fig.11**), *P. thersites* (1♀), *P. demavendi* (3♂), *Plebejus carmon* (1♂), *P. argus* (3♂), *P. loewi*; *Pieridae*: *Pieris ergane* (1♂), *Leptidea duponcheli* (1♂); *Satyridae*: *Coenonympha pamphilus* (2♂), *Arethusana arethusana* (2♂) (**Fig.12**), *Chazara briseis* (**Fig.13**); *Hesperiidae*: *Spialia phlomisidis* (**Fig.14**). *Pyrilidae*: *Nephoterix alpigenella* (2♂); *Zygaenidae*: *Zygaena carniolica* (1♂). *Diptera*: *Bombyliidae*: *Amictus* sp. (2♂), *Asilidae* (2 species), *Tachinidae* (1 species). *Hymenoptera*: *Braconidae* (1 species), *Ceramius caucasicus* (*Vespidae*, *Masarinae*) (1♂), *Pompiliidae* (1 species), *Megachilidae* (1 species); *Coleoptera*: *Chrysomelidae* (1 species), *Meloidae* (3 species). *Planipennia*: *Myrmeleonidae* (3 species) (**Figs.15-17**). *Hemiptera*: *Miridae* (1 species). *Homoptera*: *Issidae* (1 species). *Orthoptera*: *Tettigoniidae*, a nymph; *Coleoptera*: *Meloidae*: *Mylabrin* species (**Fig.18**), *Chrysomelidae*: (**Fig.19**).



Fig. 10 – *Polyommatus antidolus* (Lycaenidae). A male, sitting on a plant. Photo M.Kemal (Cesa)



Fig. 11 – *Polyommatus mithridates* (Lycaenidae). A male, feeding on the flower of *Eryngium* (Apiaceae). Photo M.Kemal (Cesa)



Fig. 12 – *Arethusana arethusana* (Satyridae). A male, sitting on a plant. Photo M. Kemal (Cesa)



Fig. 13 – *Chazara briseis* (Satyridae). A male, sitting on the earth. Photo M. Turdush (Cesa)



Fig. 14 – *Spialia phlomidis* (Hesperiidae). A male, sitting on a plant. Photo M. Turdush (Cesa)



Fig. 15 – An ant-lion species-1 (*Myrmeleonidae*) at rest. Photo M. Kemal (Cesa)



Fig. 16 – An ant-lion species-2 (*Myrmeleonidae*) at rest. Photo M. Kemal (Cesa)



Fig. 17 – An ant-lion species-3 (*Myrmeleonidae*) at rest. Photo M. Kemal (Cesa)



Fig. 18 – A *Mylabrinini* sp. (*Meloidae*) feeding on *Scabiosa* flower (*Dipsacaceae*). Photo M. Kemal (Cesa)



Fig. 19 – A leaf beetle species (*Chrysomelidae*) on *Inula* flower (*Asteraceae*). Photo M. Kemal (Cesa)

Insects inside the Caldera of Nemrut Volcano, 2270-2337m alt., on 31 July 2014



Fig. 20 – One of the habitats in the Nemrut Caldera, Tatvan district, Bitlis Province. M. Kemal (Cesa)

By following our dear Mukaddas's foot traces,⁷ we visited this time two places of the Caldera, loc. 1 - "vapour chimney" (2337m), and loc. 2- "warmlake" (2270m). Members of nine orders (*Odonata*, *Orthoptera*, *Mantodea*, *Hemiptera*, *Planipennia*, *Lepidoptera*, *Diptera*, *Hymenoptera*, *Coleoptera*) were observed or collected. At the same time, they belong to 26 families. List of the recorded taxa and illustrations in nature are given below:

Odonata

Libellulidae: *Orthetrum* sp.1 Observed at loc.2. *Orthetrum brunneum* 1 ex at loc.2 (Fig.21).

Orthoptera

Acrididae: *Oedaleus decorus*. Observed at loc.2 & 1♀ at loc.2 (Fig.22). *Oedipoda coerulescens*. Observed at loc.2. *Sphingonotus* sp. Observed at loc.2 (Fig.23). *Calliptamus* sp. 1♂ at loc.2.

Tettigoniidae: *Platycleis* sp. (nymph). 1♀ at loc.2

Mantodea

Mantidae: *Bolivaria brachyptera*. Observed at loc.2 (Figs. 24,25).

Hemiptera

Pentatomidae: *Carpocoris coreanus*. Observed at loc.2, on *Verbascum* and *Knautia* & 6 ex. at loc.2 (Figs. 26-28). *Chlorochroa juniperina*. 1♂, leg. N. Malati at loc.2 (Fig.29). This species is green coloured, when alive; its proboscis reaches upto 1. abdominal sternit. In the collecting site, *Juniperus* is widely distributed. No *Pinus* species is recorded in the Caldera. This bug is new record to Bitlis Province, and Van Lake Basin!

Reduviidae: Observed at loc.2 (Fig.30).

Miridae: 1 ex captured by a thomisid at loc.2.

Planipennia

Myrmeleonidae: 2 spp. 2♂ at loc.2.

Lepidoptera

Pieridae: *Colias crocea*. Observed mostly old specimens at loc.2 during feeding on *Knautia* & 3♂ 2♀ at loc.2 (Fig.31).

Satyridae: *Hyponphele lycaon*. 1♂ 1♀ at loc.1. *Satyrus favonius* ssp. *favonius*. 1♂ 1♀ at loc.2. *Satyrus iranicus*. 1♀ at loc.2.

Lycaenidae: *Lycaena tityrus*. Observed at loc.2 & 1♂ 1♀ at loc.2 (Fig.32). *Lycaena phlaeas*. Observed at loc.2 & 1♀ at loc.2 (Fig.33). *Lycaena alciphron*. 1♂ at loc.1 & 1♀ at loc.2. *Plebejus alcedo*. 1♂ at loc.1. *Plebejus loewii*. 1♀ at loc.1 & 6♂ 1♀ at loc.2. *Polyommatus daphnis*. 1♂ at loc.2. *Polyommatus pseudactis* 2♂ at loc.1. *Polyommatus demavendi* 1♂ at loc.2. *Polyommatus agestis*. 1♂ at loc.2.

Hesperiidae: *Hesperia comma*. Observed at loc.2 (Fig.34).

Brachodidae: *Brachodes* sp. 1♂ at loc.2.

Zygaenidae: *Zygaena loti*, ssp. 1♂ at loc.2. A very pale specimen. New to the fauna of Nemrut Volcano! Besides, the genus *Zygaena* hasnot been reported from Nemrut Caldera so far.

Diptera

Bombyliidae: *Hemipenthes velutinus*. 1♂ at loc.2

Stratiomyidae: Observed at loc.2, captured by a thomisid (Fig.35).

Syrphidae: *Eristalis arbustorum*. 1♀ at loc.2. *Syrphus* sp. 1 ex. at loc.2.

Hymenoptera

Megachilidae: *Anthidium* sp. 1 ex at loc.2. *Megachile* sp. 1 ex at loc.2

⁷ Mukaddas Mijit, accompanied with us during an excursion to Nemrut Caldera in July 2011. She is currently PhD student of Cultures et sociétés du pass et du présent in Ethnomusicologie, Université Paris, Paris, France.

Sphecidae: Spheg aff. funerarius. 1♂ 1♀ at loc.2

Apidae Bombus sp.1 1 ex at loc.2. *Bombus* sp.2 1 ex at loc.2

Vespidae: Polistes sp. 2 ex at loc.2.

Scoliidae: Scolia sp. 1 ex at loc.2

Melittidae: Dasypoda sp. 1 ex at loc.2

Chrysididae: Parnopes grandior. 1♀ at loc.2. New record for Bitlis Province, and Van Lake Basin! (**Fig.36**)

Coleoptera

Coccinellidae: Coccinella septempunctata. Observed at loc.1.

Meloidae: Mylabris sp. 1♂ at loc.2



Fig. 21 – *Orthetrum burnneum* (Libellulidae). Photo M. Turdush (Cesa)



Fig. 22 – *Oedaleus decorus* (Acrididae). Photo M. Kemal (Cesa)



Fig. 23 – *Sphingonotus* sp. (Acrididae). Photo M. Kemal (Cesa)



Fig. 24 – *Bolivaria brachyptera* (Mantidae). Photo M. Kemal (Cesa)



Fig. 25 – *Bolivaria brachyptera* (Mantidae). Photo M. Kemal (Cesa)



Fig. 26 – *Carpocoris coreanus* (Pentatomidae) on the flowers of *Verbascum* (Scrophulariaceae). Photo M. Kemal (Cesa)



Fig. 27 – *Carpocoris coreanus* (Pentatomidae) on the flowers of *Knautia* (Dipsacaceae). Photo M. Kemal (Cesa)



Fig. 28 – *Carpocoris coreanus* (Pentatomidae) on the flowers of *Allium* (Liliaceae). Photo M. Kemal (Cesa)



Fig. 29 – *Chlorochroa juniperina* ♂ (Pentatomidae). Photo M. Kemal (Cesa)



Fig. 30 – *Rhynocoris* sp. (Reduviidae) on the flowers of *Vesbascum*. Photo M. Kemal (Cesa)



Fig. 31 – *Colias crocea* (Pieridae). A worn specimen during feeding on the flowers of *Scabiosa* (Dipsacaceae). Photo M. Kemal (Cesa)



Fig. 32 – *Lycaena tityrus* (Lycaenidae), a male of the second generation at rest. Photo M. Kemal (Cesa)



Fig. 33 – *Lycaena phlaeas* (Lycaenidae), a male of the second generation at rest. Photo M. Kemal (Cesa)



Fig. 34 – *Hesperia comma* (Hesperiidae), a female specimen at rest. Photo M. Kemal (Cesa)



Fig. 35 – A stratiomid fly captured by a thomisid spider. Photo M. Kemal (Cesa)



Fig. 36 – *Parnopes grandior* (Chrysidae) on *Scabiosa* flower (Dipsacaceae). Photo M. Kemal (Cesa)

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Research article

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Rediscovering of *Charaxes jasius jasius* (Linnaeus, 1767) (Lepidoptera: Nymphalidae) in Lebanon

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Abstract: Rediscovering of *Charaxes jasius jasius* (Linnaeus, 1767) (Lepidoptera: Nymphalidae) in Lebanon. *Cesa News* 97: 13-19, 2 figs.

New data are presented concerning the rare nymphalid butterfly *Charaxes jasius jasius* (Linnaeus, 1767) in southern Lebanon. The current taxonomic status, biology, ecology, and distribution in the Middle East are reviewed.

Key words: *Lepidoptera*, *Nymphalidae*, *Charaxes jasius jasius*, Lebanon, new localities, rediscovery, faunal studies

Introduction

The genus *Charaxes* Ochsenheimer, 1816, is a very numerous group of closely related species that has long been a source of taxonomic problems. State-of-the-art genetic research has helped identify the kinship relations for most of the species, and the genus is currently divided into five subgenera. The subgenus *Charaxes* Ochsenheimer, 1816, comprises eleven species groups, including a *jasius* group, which, apart from *Charaxes jasius* (Linnaeus, 1767), also includes *Charaxes legeri* Plantrou, 1977, *Charaxes castor* (Cramer, 1775), *Charaxes brutus* (Cramer, 1779), *Charaxes lucretius* (Cramer, 1777), *Charaxes eudoxus* (Drury, 1782), *Charaxes druceanus* Butler, 1869, *Charaxes ansorgei* Rothschild, 1897, *Charaxes richelmani* Röber, 1936, *Charaxes pollux* (Cramer, 1775), *Charaxes lactetinctus* Karsch, 1892, and *Charaxes ducarme* (Plantrou, 1982) (Aduse-Poku et al. 2009).

At the same time, it has been determined that the subgeneric taxa forming part of the taxon *Charaxes jasius* (Linnaeus, 1767) do not represent a monophyletic group, with the subspecies *Charaxes jasius jasius* (Linnaeus, 1767) from the Mediterranean region in particular exhibiting considerable genetic differences when compared with the subspecies *Charaxes jasius epijasius* Reiche, [1850] and *Charaxes jasius saturnus* (Butler, 1865) from Sub-Saharan Africa (Aduse-Poku et al. 2009). A separate status for these taxa was postulated previously by a number of researchers and taxonomists (Larsen 2005).

Charaxes jasius jasius (Linnaeus, 1767) is mostly distributed along the Mediterranean coast. In North Africa, the butterfly can be found in Morocco, Algeria and Tunisia, but it has not been reported from the Mediterranean coast of Libya and Egypt (Larsen 1974, Tolman, Lewington 1997, Tarrier, Delacre 2008, Kemal, Koçak 2011).

In Europe, *Charaxes jasius jasius* (Linnaeus, 1767) is known chiefly from coastal areas in Portugal, Spain, Gibraltar, France, Italy, Croatia, Bosnia & Herzegovina, Serbia, Montenegro, Albania, and Greece. It has also been reported from numerous Mediterranean islands, including the Balears, Corsica, Sardinia, Sicily, Corfu, Crete, Samos, Icaria, Euboea, Chios and Rhodes, as well as from Cyprus (Perez de Gregorio 1975, Wagner-Rollinger 1978, Aberlenc 1979, Teobaldelli

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1985, Verdugo-Paez 1987, Martinez-Alvarez 1990, Lesuire 1990, Coin 1992, Laugier 1994, Wooler 1994, Berard 1996, Tolman, Lewington 1997, Tormo-Munoz 1999, van Swaay, Warren 1999, Kudrna 2002, Carbonell 2004, Murria-Beltran 2006, Kemal, Koçak 2011). There is also an isolated, doubtful record from the Crimea in the late 19th century (Alphéraky, 1908).

Apart from Europe and Africa, *Charaxes jasius jasius* (Linnaeus, 1767) has been reported from the Asian part of Turkey, Lebanon, Israel, and Jordan (Larsen 1974, Benyamini 1983, 2002, Koçak 1986, Andersen 1995, Hesselbarth et al. 1995, Sturm 1998, Katbeh-Bader et al. 2003, Kemal, Koçak 2011).

The aim of this paper is to review data on the occurrence of *Charaxes jasius jasius* (Linnaeus, 1767) and provide up-to-date information on the distribution of this species in Lebanon.

Biology

Charaxes jasius jasius (Linnaeus, 1767) reaches a wing span of 65 to 85 mm. The hind wings have two pairs of long tails. The butterflies are easy to identify owing to their characteristic habitus. There is poor sexual dimorphism, with females usually slightly larger than males.

Two generations can usually be seen yearly, appearing from May to early July and from mid-August to mid-October. Under favourable circumstances, a third, incomplete, generation may appear in the south of Spain and in Africa in December, with imagines usually larger than those of the second generation. Young caterpillars are the overwintering stage (Verdugo-Paez 1987, Tarrier, Delacre 2008).

The main host plant of the caterpillars is *Arbutus unedo* L. (Tolman, Lewington 1997). In the eastern part of the Mediterranean basin (e.g. Cyprus), the caterpillars may also be frequently seen feeding on *Arbutus andrachne* L. (Markis 2003). Other species identified as host plants in the literature include *Osyris quadripartita* Salzmann ex Decaisne in the southern part of the Iberian Peninsula and on the Balears (Fernandez-Martinez 2000), *Nicotiana glauca* Graham on Samos and Cyprus (Markis 2003), *Camellia sinensis* (L.) Kuntze in North Africa (Tolman, Lewington 1997), and even *Citrus paradisi* Macfad. and *Citrus sinensis* (L.) Osbeck. in Italy (Longo et al. 2000). Caterpillars are also sporadically seen on other plants, such as *Annona cherimola* (Miller) (Sariot 2003), *Laurus nobilis* L. (Nel 1979, Stefanescu 1995), and *Prunus persica* (L.) Batsch (Danner 2001).

Distribution in Middle East

Charaxes jasius jasius (Linnaeus, 1767) is widely distributed across the coastal zone of the Mediterranean Sea. While it has been reported from almost all countries in the eastern part of the region, e.g. southern Turkey, Jordan, Israel, Cyprus, and Lebanon, contemporary data are only available for some of them, mostly Turkey, Israel, Jordan, and Cyprus (Koçak, Kemal 2009, Katbeh-Bader et al. 2003, Markis 2003, Al-Quran 2009, Benyamini 2009, 2010).

Of the countries bordering on Lebanon, the distribution of *Charaxes jasius jasius* (Linnaeus, 1767) is best documented in Israel, where the species occurs in two zoogeographical zones in the north and centre of the country.

One zone is an area comprising Mt. Meron (Gebel Germak, Jabal al-Jarmaq) and the mountain valleys surrounding it at altitudes between 600 m and 1200 m above sea level. *Charaxes jasius jasius* (Linnaeus, 1767) has been reported from a few localities situated just along the border with Lebanon, e.g. in Iqrit (Iqrith, Iqreet, Akriith), 570 m ASL, 33 04' 31.55"N; 35 16' 30.75"E, approximately 2.5–3 km south of the border, and in Mattat (Dayr al-Qassi', Deir el-Qasi'), 800 m ASL, 33 02' 28.15"N; 35 21' 18.04"E, approximately 1.5 km from the border (Benyamini pers.comm.).

Typical butterfly species in this area include *Callophrys rubi rubi* (Linnaeus, 1758), *Celastrina argiolus paraleuca* (Röber, 1897), *Cyaniris bellis antiochena* (Lederer, 1861), *Chazara persephone transiens* (Zerny, 1932), and *Melitaea collina collina* Lederer, 1861.

The other zone, called the main Mediterranean zone, encompasses mountain ranges and a coastal lowland extending from the Israeli-Lebanese border in the north to Jerusalem and Gaza in

the south. Typical butterfly species in this zone are *Gonepteryx cleopatra taurica* (Staudinger, 1881) and *Melanargia titea titania* Calbera, 1891.

Both these zones, especially an area comprising the upper, mountainous part of Israel, constitute the main habitat of *Charaxes jasius jasius* (Linnaeus, 1767) on the eastern Mediterranean coast. *Arbutus unedo* L. is the only natural host plant of the species in Israel; caterpillars kept for breeding also accept other species of this plant genus. It is fairly common and abundant in this area (Benyamini 1983, 2009, 2010, pers.comm.).

Charaxes jasius jasius (Linnaeus, 1767) is also known from the Golan Heights, a disputed territory that used to be part of Syria until 1967 and has been administered by Israel since 1967. Within the current borders of the Golan Heights, the butterfly has been reported since 2000 from the vicinity of Mt. Dov (Gebel Rus, Har Dov), a hill located approx. 1200 m ASL, 33° 17' 07.46"N, 35° 41' 24.76"E, very close to the present border with Lebanon, within the Shebaa Farms (Mazārī' Šib'ā, Havot Sheba') (Benyamini pers.comm.).



Fig. 1. Distribution of *Charaxes jasius jasius* (Linnaeus, 1767) in Lebanon ● – literature data, ● – new data.

Methods

The butterflies were followed up directly in Lebanon in 2003-2004. They were watched live in their natural environment or captured with a standard sweeping net and preserved according to standard principles of Macrolepidoptera preservation. The material is in the author's private collections.

Given next to the locality name are: the name of the region, UTM (Universal Transverse of Mercator) co-ordinates (10x10 km grid) and geographical co-ordinates in DMS and DMF formats.

Results

Lebanon, Southern Lebanon, Naqoura (An Nāqūrah, Enn Nâqoura), [YBo6], 33° 07' 27.44"N, 35° 08' 13.71"E, 33.124290, 35.137141 – 2 exx., 20 X 2004, leg. & det. J. Bury and X 2004 – watched a few individuals with the wings very much damaged.

The new locality (**Fig. 1**) is located within a coastal band, in a built-up rural area with sparse orchard and house garden type of vegetation. The built-up areas are surrounded by elevations and hills covered with a maquis shrubland turning into garrigue shrubland. The distance from the shore line is approx. 200 m.

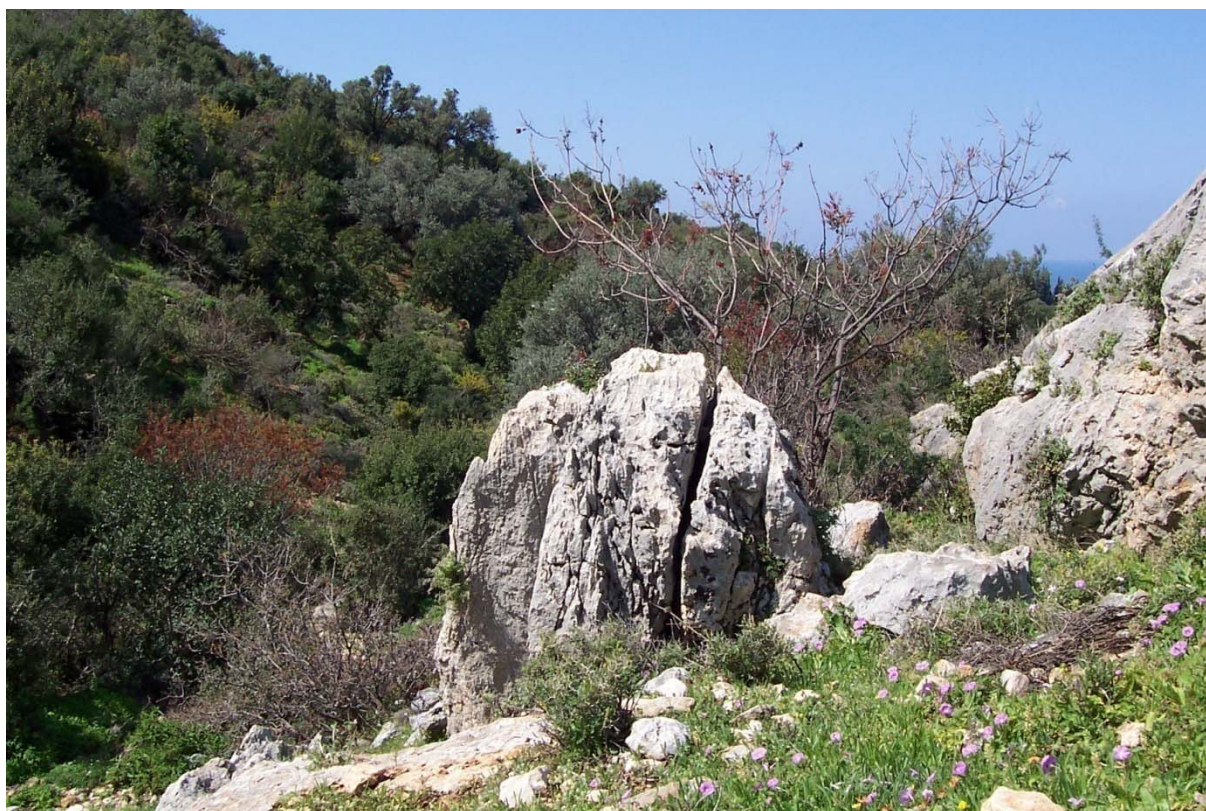


Fig. 2. *Charaxes jasius jasius* (Linnaeus, 1767) biotope in Southern Lebanon, near the town of Naqoura – maquis shrubland turning into garrigue. Photo by J. Bury.

Discussion

In Lebanon, *Charaxes jasius jasius* (Linnaeus, 1767) has previously been known only from a handful of historical sites. It was recorded from the environs of Aaraya [YC44] in July 1927, from Beirut [YC35] in September 1934, and from the area around Beit Méry [YC45] in April 1934 (Ellison, Wiltshire 1939). The presence of this species in Lebanon was also mentioned by a German entomologist travelling in Lebanon (Roell 1962) (**Fig. 1**).

All reports to date have been confined to the coastal zone, also known as the lower Mediterranean zone (Larsen 1974). This zone encompasses areas located in the altitude range between the sea level and approx. 500 m ASL and has characteristic vegetation, with *Pinus helepensis* Mill., *Arbutus unedo* L., *Pistacia lentiscus* L., *Myrtus communis* L., *Clematis cirrhosa* L., *Asparagus acutifolius* L., *Phlomis viscosa* Poiret in Lam., *Scilla autumnalis* L., *Iris palaestina* (Baker) Boiss., and *Colchicum stevenii* Kunth.

A characteristic secondary coastal plant community is the maquis shrubland (Fig. 2.), composed mainly of low trees and shrubs of the genus *Quercus* L., *Terebinthus* Mill., *Ceratonia* L., *Laurus* L. as well as vines and aromatic herbs - *Smilax* L., *Lonicera* L., *Asparagus* L., *Clematis* L. and many others, (Fig. 2.). Characteristic butterfly species in this zone are *Gonepteryx cleopatra taurica* (Staudinger, 1881), *Melanargia titea titania* Calbera, 1891, and *Ypthima asterope asterope* (Klug, 1802) (Larsen 1974).

Regrettably, the zone has been subject to considerable transformation in the form of urbanisation, degradation due to excessive pasturing, clearing for charcoal production, and transformation to arable land with dominant plantations of citrus and banana plants. It was probably this intensified anthropogenic activity along the Mediterranean coast that was the reason

behind the failure of the well-known Danish entomologist Torben B. Larsen to confirm the occurrence of this species in Lebanon despite an extensive search between 1970 and 1974 (Larsen 1974). No new records of *Charaxes jasius jasius* (Linnaeus, 1767) in Lebanon have been available up to now (Larsen 1986, pers. comm.).

The new reports of *Charaxes jasius jasius* (Linnaeus, 1767) in the south of Lebanon have closed an over 40-year hiatus in recording the species in Lebanon. The species has been found in the extreme south of the country, near the Israeli border. Paradoxically, this most economically neglected part of the Lebanese coast has probably preserved enough natural habitats to sustain a local population of *Charaxes jasius jasius* (Linnaeus, 1767). It is also possible that the caterpillars take advantage of domesticated plants and alien decorative plants introduced to this area by man.

Another possible explanation for the finding of *Charaxes jasius jasius* (Linnaeus, 1767) in southern Lebanon is the migration of imagines from neighbouring Israel, where legal protection regulations have resulted in the presence of a wide diversity of natural habitats where the caterpillars have easy access to their main host plant *Arbutus unedo* L.

The geopolitical situation makes insect studies in Lebanon difficult. However, every new study in this area brings a number of new discoveries, one example being the observations made by the present author about Coleoptera: Cerambycidae of southern Lebanon (Sama et al. 2010).

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STRESZCZENIE

[Ponowne odkrycie *Charaxes jasius jasius* (LINNAEUS, 1767) (Lepidoptera: Nymphalidae) w Libanie.] *Charaxes jasius jasius* (Linnaeus, 1767) zasiedla niemal całe wybrzeże Morza Śródziemnego. We wschodniej części arealu swego występowania wykazany jest z wielu krajów, jednak nowe dane dotyczą głównie Turcji, Cypru, Jordanii i Izraela. Od ponad 40 lat gatunek ten nie był wykazywany w Libanie. W pracy przedstawiono nowe i niepublikowane dotychczas dane o występowaniu *Charaxes jasius jasius* (Linnaeus, 1767) w Libanie. Praca podaje również krótko obecny status taksonomiczny, biologię, ekologię i rozmieszczenie *Charaxes jasius jasius* (Linnaeus, 1767) w Libanie oraz w krajach z nim sąsiadujących, głównie w Izraelu, na terytorium którego zlokalizowana jest najliczniejsza populacja tego gatunku na Bliskim Wschodzie.

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